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09/371,760

08/10/1999

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08/12/2002

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EXAMINER

NOLAN, DANIEL A

ART UNIT

PAPER NUMBER

2654

DATE MAILED: 08/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.



**Office Action Summary**

Application No.

09/371,760

Applicant(s)

FUNAKI, TOMOYUKI

Examiner

Daniel A. Nolan

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 August 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4-10, 12, 13 and 15-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12, 13 and 15-21 is/are allowed.
- 6) ☒ Claim(s) 4-10 and 22-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☒ Interview Summary (PTO-413) Paper No(s). 18.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other:



**DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Response to Amendment***

2. The amendment filed 5 August 2002 was entered to the following effect:
  - Claims 1, 11 and 14 were cancelled and the rejections withdrawn as moot.
  - Claim 4 was changed to be dependent on claim 22.
  - Claims 22-28 were added and examined on the merits.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Teany**

4. Claims 22-27 are rejected under 35 U.S.C. 102(b) as being directly anticipated by Teany (U.S. Patent 5,171,930).



5. Regarding claims 22, 24 & 26 and 23, 25 & 27, Teany (column 2 lines 19-21) reads on the features of *extracting volume* and *extracting pitch*. Both features of *volume* and *pitch* are combined to read on the feature of *threshold* values (as in column 5 line 11).

***Claim Rejections - 35 USC § 103***

**Kohler**

6. Claims 22-28 and 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohler (U.S. Patent 6,140,568).

7. Regarding claims 22-27, Kohler claims in his claim 1 the specific features of *receiving signals, extracting characteristics* (decomposing) *and setting parameters*.

8. Regarding claims 22, 24 and 26, Kohler employs a MIDI converter to process *volume* (column 3 line 62) and further uses that MIDI to set *thresholds* (column 5 lines 10-12).

While Kohler does not specifically mention setting a *volume threshold* because he qualifies the above referenced disclosure as examples (bottom of column 4), it would have been obvious to a person of ordinary skill in the art of signal processing at the time



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of the invention to put the volume threshold detection mechanism at that point to start, continue and stop processing as shown by Kohler in figures 9 & 10.

9. Regarding claims 23, 25 and 27, Kohler describes filtering out non-pitched content (column 3 lines 52-55). While not specifying upper and lower pitch limits, it would have been obvious to a person of ordinary skill in the art of signal processing at the time of the invention to establish limits beyond which and less than which a signal would be considered.

10. Regarding claims 4 and 28, the claims are set forth with the same limitations as claims 22 and 23, respectively. Kohler represents a *display* in figure 2 for presenting information to the user/operator (column 10 line 41).

11. Regarding claim 5, the claim is set forth with the same limitations as claim 4. Kohler claims direct control of the parameters (3<sup>rd</sup> feature of claim 30) enabled by the keyboard (column 10 line 26).

**Kohler & Humphrey<sup>75</sup> et al**

12. Claims 6-10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kohler in view of Humphrey<sup>75</sup> et al (U.S. Patent 3,894,186).



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13. Regarding claim 6, Kohler discloses the features of *Input* (addressed in response to claim 1) and *pitch extracting* (*ibid.* responding to claim 3).

Kohler further discloses the means to *determine notes* (column 3 line 47) using *pitch* with the recognizer (item 400, figure 1) in response to prior attempts (last paragraph of column 1 through column 2 line 35) more successfully (in figure 16 items 421284-421286).

Kohler does not disclose a *scale designation section* to correlate the above note determination with the values of a scale. Humphrey<sup>75</sup> et al explicitly assigns notes by activation of a visual device in reaction to pitch values (last paragraph of column 9). Because Kohler, Humphrey<sup>75</sup> et al and the immediate invention strive to present audio signals in visual form, it would have been obvious to a person of ordinary skill in the art of signal processing at the time of the invention to employ a well known coding scheme such as musical notation and its attendant scale rather than to attempt to train operators in technical representation.

14. Regarding claim 7, the claim is set forth with the same features as claim 6. While Kohler does not deal with presentation using a scale and so would not be expected to address the use of different scales, Humphrey<sup>75</sup> et al teaches the characteristics of the scales (in column 4 lines 42-45) as being either *diatonic* or *chromatic* of 7- or 12-tones, respectively.



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15. Regarding claim 8, the claim is set forth with the same features as claim 7. While Kohler does not deal with presentation using a chromatic scale and so would not address the matter of assigning *diatonic* or *intermediate* notes. Humphrey<sup>75</sup> et al recognizes the possibility of implementing either scale (starting at the 6<sup>th</sup> line from the end of column 20 and in the 1<sup>st</sup> paragraph of column 24).

16. Regarding claim 9, the claim is set forth with the same features as claim 8. While Kohler does not deal with presentation on a musical scale and so would not address the matter of assigning *diatonic* or *intermediate* notes. Humphrey<sup>75</sup> et al recognizes that different representations could be used, changing the number of output or display elements (column 24 2<sup>nd</sup> paragraph). Further, it would have been obvious to a person of ordinary skill in signal processing at the time of the invention that dealing with a signal with finite limits increasing the number of elements will narrow the intervals between them, or pitch extremes, and reducing the number of division will broaden the pitch limits.

17. Regarding claim 10, the claim is set forth with the same features as claim 6. Kohler teaches that *note length* and specific *minimums* (column 21 lines 29-32) validate a note. This *minimum note length* corresponds to the *unit* of the claim as being the lowest amount that is considered. It would have been obvious to a person of ordinary skill in signal processing at the time of the invention that the predominant basis for established equivalence scales and measures is the smallest recognizable part.



***Allowable Subject Matter***

18. Claims 12, 13, and 15-21 are allowed.
19. The following is a statement of reasons for the indication of allowable subject matter:
- Regarding claims 12, 15, 17, 19 and 20; the features of *input, pitch extracting* and the means to *determine notes* using *pitch* are the same as those for claim 6 and 3, the ability to use different scales to represent processing is neither anticipated nor has it been found in an obvious combination in the prior art of record.
  - Claims 13, 16, 18 and 21 depend on claims which have been found to be allowable and so do they become allowable as a result.

***Conclusion***

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Shudo (U.S. Patent 6,035,009) reads on *extracting volume parameters* (10-12 in figures 1 & 3).
- Carlson et al (U.S. Patent 4,777,649) reads on *establishing pitch thresholds* (24, 25, 63 in figure 8).

22. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Daniel A. Nolan at telephone (703) 305-1368 whose normal business hours are Mon, Tue, Thu & Fri, from 7 AM to 5 PM.

If attempts to contact the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold, can be reached at (703) 305-4379.



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The fax phone number for Technology Center 2600 is (703) 872-9314. Label informal and draft communications as "DRAFT" or "PROPOSED", & designate formal communications as "EXPEDITED PROCEDURE".

Formal response to this action may be faxed according to the above instructions,

or mailed to:                      Box AF  
   Commissioner of Patents and Trademarks  
   Washington, D.C. 20231

or hand-delivered to:            Crystal Park 2,  
   2121 Crystal Drive, Arlington, VA,  
   Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 Customer Service Office at telephone number (703) 306-0377.

Daniel A. Nolan  
Examiner  
Art Unit 2654

dan

August 9, 2002

*Vijay Chawan* 8/9/02

VIJAY CHAWAN  
PRIMARY EXAMINER